PROCEEDINGS OF THE

ROYAL ENTOMOLOGICAL SOCIETY

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GENERAL MEETING

WEDNESDAY, 2ND MAY, 1945, **at 3.30 p.m.**

AGENDA

1. Confirmation of the Proceedings of the General Meeting held on 4th April, 1945.
2. Recommendations of candidates for Fellowship.
3. Announcement of election of new Fellows.
4. The following additions have been made to the Library since the meeting on 4th April, 1945:

Presented.

Whitehouse, F. C.: A Guide to the Study of the Dragonflies of Jamaica. [*Bull. Inst. Jamaica* 3, 1943.] [The Jamaica Institute.]

Purchased.

Didier, R.: *Études sur les Coléoptères Lucanides du Globe.* Fasc. 1–8, 1928–31.

Paillot (and others): *L'Abeille; anatomie, maladies, enemis.* 1943.

Faune de France **42**. Badonnet: *Psocoptera.* 1943.

In addition, separates have been presented by Mr. F. Lane, M. Jean Leclerq and Professor P. A. Buxton, Mr. E. R. Tinkham, Mr. E. P. Wiltshire, Major H. C. Gunton, Capt. K. J. Hayward, M. J. Balazuc, Mr. J. C. M. Gardner, Mr. J. A. G. Rehn, and Professor G. D. Hale Carpenter.

5. Admission of Fellows.
6. Communications.

(1) **Mr. Robert B. Benson.**

A nest of the common wasp constructed partly from woollen garments.

[Abstract.]

Mr. Harry Bull, in charge of the Tring Air Raid Protection stores, called my attention, on 27 July 1944, to a remarkable nest of *Vespula vulgaris* (L.) among some clothes at the Women's Voluntary Service Clothing Centre in Frogmore Street, Tring, Hertfordshire. The nest had been built between layers of clothes and was constructed partly of wool; 14 separate garments, all woollen, had been bitten and the woollen material, dyed red, blue, green and several shades of brown, had been mixed with the wood-pulp and incorporated into the cell and wall structures of the nest. Linen garments had been used for attaching the nest, but had not been bitten. So far as I can find out it is quite unique for a nest of *Vespula* to be constructed partly of animal matter. The clothes had been a gift from the American Red Cross and had been lying in store for more than a year. The inhabitants of the nest had already been destroyed by cyanic acid gas when I saw it, but so far as I could estimate there were over 500 dead workers in it.

(2) **Dr. G. Fraenkel.**

The general food requirements of insects.

[*Abstract.*]

It is proposed to deal mainly with the requirements of growing larvae. Insects differ very much in their requirements for carbohydrates, which may be as high as 80% of the food for some species, while others grow well in the absence of them. All insects seem to require a sterol in the diet, but there are qualitative and quantitative differences. Of vitamins, only those of the B-complex are required. Of the chemically known B-vitamins, at least 7 are of importance for insects. Intracellular symbionts are a source of B-vitamins for certain insects. The importance of a fat in the diet (linoleic acid) has so far only been demonstrated for the genus *Ephestia*. Certain insects which live on very dry foods acquire most of their water by metabolic processes.

(3) Communications and exhibits the titles of which have been received since the circulation of these agenda.

Tea will be served in the Library after the meeting.

NOTICE.

Fellows are reminded that systematic papers for which they are anxious to secure early publication can now be published with very little delay in *Proceedings Series B*, provided they do not exceed a length of some eight printed pages.

PROCEEDINGS OF THE GENERAL MEETING HELD ON 4TH APRIL, 1945.

Professor G. D. Hale CARPENTER, M.B.E., D.M., President, in the Chair.

Present, 29 Fellows and 2 Visitors.

The minutes of the General Meeting held on 7th March were read by the Secretary, printed copies having been delayed in the post, confirmed, and signed by the President.

The President announced that Dr. Sheffield A. Neave, C.M.G., O.B.E., M.A., D.Sc., had been elected by the Council a Special Life Fellow of the Society.

The names of the following candidates for election were read :—

For the first time : Douglas Patrick Pielou, John Eric Marson, Peter William Stanley, Clarence Victor Wilton Burnard, William McAuley Gracie.

For the second time : Cedric Vivian Adams, Leonard E. Couchman, Ronald Albert Davis, Eric Charles Evans, John S. Kennedy, Basil Bassett Snell.

The Secretary read the names of the following newly elected Fellows of the Society : Martin David Austin, The Field Laboratory, Porters Farm, Great Brasted, near Witham, Essex; G. R. Fenton, Imperial Forestry Institute, Oxford; P. Griveau, Pleine-Fougères, Ille-et-Vilaine, France; Albert Smith Taylor, 12 Frenchwood Avenue, Preston, Lancashire; Anthony Valletta, 214 Msida Street, B'kara, Malta.

Thanks were voted to the donors of gifts to the Library since the last meeting.

Mrs. Kate Richardson gave an account of her travels in Western China and Eastern Tibet, an abstract of which appeared on pp. 9–10.

In addition, Mr. Paul Hewlett exhibited a living male of the stick-insect, *Carausius morosus* Stål, and Professor G. D. Hale Carpenter communicated the following note on :—

The Problem of "Anting" in Birds.

I am indebted to Mr. B. B. Osmaston, late of the Indian Forest Service, for drawing my attention to a phenomenon much discussed by ornithologists but possibly less well known to entomologists, and therefore venture to bring it conspicuously before them.

As long ago as 1903, when in Darjiling, Mr. Osmaston noted the peculiar behaviour of tame "Laughing thrushes" brought up from the nest when they were offered strongly smelling Hemiptera. The following is a quotation. "They invariably seized the insect without hesitation and as soon as they became aware of the objectionable effluvium, instead of instantly rejecting them as one would have been led to expect, they started to press or rub the insect against their under tail coverts. Moreover this action was carried out vigorously and in no uncertain manner."[1] These birds were *Trochalopterum nigrimentum* and *Dryonastes coerulatus* : later, in the Andaman Isles a young *Dendrocitta bayleyi* also reared from the nest, and *Trochalopterum erythrocephalum* in Garwhal were found to behave in a similar manner.

Recently Mr. A. H. Chisholm[2] has discussed the subject, on which a variety of observations have been recorded, and the following extracts show the complexity of the problem. In Australia the European starling has been seen to pick up " soldier ants," put them under its wings, and, after a while, take them out again. Indian Minahs, in Melbourne, have been seen to pick up an ant, shake the head quickly, and then wipe the beak beneath a wing. Crows in Germany have been seen on a mound of *Formica rufa* early in spring, moving their bodies with wings and tail partly expanded : a song-thrust in Kent was seen " wallowing " with wings and tail outspread among ants and applying them beneath tail and wings.

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[1] 1936, *J. Bombay nat. Hist. Soc.* **39** : 182–3.

[2] 1944, *Ibis* **86** : 389–405.

Chisholm saw this himself in 1943, at Melbourne, and his note is quoted verbatim. " The practitioners were fifteen European Starlings, most of them in immature plumage. Each bird snatched up an ant from a gravel path and dabbed it quickly first under one wing and then under the other, after which the insect usually was dropped. Sometimes, however, a bird continued to hold an ant after applying it to the plumage and snatched up another while still holding the first one. All the actions of the Starlings were very rapid. Two birds in particular nearly fell over backward while rearing up smartly and applying ants beneath their tails. I saw no evidence of the insects being eaten. When the birds departed, the path was bespattered with dead and maimed ants, some 50 per cent. of which had their abdomens burst, while the others were more or less intact. The species was *Camponotus consobrinus*, a type that bites and sprays quickly, which possibly helps to explain the rapidity of the Starlings' actions." Besides these introduced birds five native species in Australia have also been seen " anting," but in one case the bird, a " Grey Juniper " (*Struthidea* sp.), used " small black beetles."

So far we have been considering only insects of odoriferous kinds. But, as Chisholm points out, so long ago as 1847 P. H. Gosse [3] recorded that, in Jamaica, the " Tinkling Grackle " (*Quiscalus crassirostris* Swainson) goes to lime trees, picks up a fallen fruit and takes it, in its beak, to a branch where it would " take its lime in one foot and gently rub it over its side beneath the wing, transfer it to the other foot, and rub the other side in the same way. . . . The observer has watched this proceeding by the hour together."

Chisholm summarises and discusses the known observations since the date of a bibliography published by W. L. McAtee in the " Auk " for January 1938, and discusses possible interpretations of this strange behaviour. One thing seems common to all the cases—that the object used is odoriferous. But much more evidence is needed to enable a satisfactory explanation to be devised. Since the observers have been mainly ornithologists, the identity of the ants has not always been secured : it has been taken for granted that because it was an ant it was odoriferous. Perhaps entomologists can obtain more light on this puzzling habit, for which some five explanations have been suggested.

There is a curious analogy between this occurrence and the attacks of birds upon butterflies. Many good naturalists refuse to believe in the latter because they have never seen a bird attack a butterfly. When I wrote to that fine field ornithologist, Mr. R. Moreau of the Agricultural Research Station at Amani, East Africa, he replied that neither he nor his wife had ever seen a bird " anting " and he had no idea what could be the explanation.

N. D. RILEY, *Hon. Secretary.*

The next Meeting will be held on Wednesday, 6th June 1945, **at 3.30 p.m.**

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[3] 1847, *The Birds of Jamaica*. London.